DETAILED ACTION

Applicants' response, filed 4 January 2010, has been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claims 2-22, 26-30, 32, 33, and 47-57 are currently pending and under exam herein. Claims 1, 23-25, 31, and 34-46 have been cancelled.

Claim Rejections - 35 USC § 101

The outstanding claim rejections under 35 USC 101, non-statutory subject matter have been withdrawn in view of the claim amendments.

Claim Rejections - 35 USC § 112

The outstanding claim rejections under 35 USC 112, 2nd paragraph have been withdrawn in view of the claim amendments.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

 1. Claims are rejected under 35 U.S.C. 102(b) as being anticipated by Baeza-Yates and

Navarro (Algorithmica (1999) Vol. 23, pages 127-158; submitted in request to 1.105). This is a

new grounds of rejection.

 The instant claims are drawn to a method for comparing a first sequence and a second

sequence by determining a plurality of alignments and associating error with the alignments and

comparing the errors to identify those with the smallest error and further computing percent

identity.

 In regard to claims 2-22, 26-30, 32, 33, and 47-57 , Baeza-Yates and Navarro teach an

algorithm for approximate string matching for use in text searching, computational biology, and

pattern recognition, for example (page 127, Introduction). The algorithm takes a text of length n,

a pattern of length m and a maximal number of errors allowed, k, to find text positions where the

pattern matches the text up to k errors. The errors can be substitutions, deletions, or insertions

and $\alpha=k/m$ is a calculated error ratio in the alphabet size of σ (page 127, Introduction). Baeza-

Yates and Navarro teach the partitioning of short patterns within long patterns (pages 135-138).

 2. Claims are rejected under 35 U.S.C. 102(b) as being anticipated by Glemet and

Codani (1997) Vol. 13, No. 2, pages 137-143). This is a new grounds of rejection.

 The instant claims are drawn to a method for comparing a first sequence and a second

sequence by determining a plurality of alignments and associating error with the alignments and

comparing the errors to identify those with the smallest error and further computing percent

identity.

Glemet and Codani teach the LASSAP software package for sequence comparison which

is a high-perfromance system that includes intra-and inter-databank comparisons; computational

requests; frams translations on queries and databanks; structured results; and parallelization

(abstract). LASSAP incorporates the major sequence comparison algorithms (FASTA, BLAST,

Smith/Waterman) and other string matching algorithms and pattern matching algorithms

(abstract). LASSAP includes scoring matrices (page 139, column 1). Alignment is displayed

and stored (page 140, column 2). LASSAP includes a score at teh beginning and end of the

matching positions, frame number, statistical significance (probability, Z-score, etc...) and also

gap positions (page 140, column 2). Post analysis can sort by scores, probabilities, length of

alignment etc... (page 141, column 1). Details of the various algorithms are found at page 141,

column 1.

3. Claims 2-22, 26-30, 32, 33, and 47-57 are rejected under 35 U.S.C. 102(a) as being

anticipated by over the LASSAP User Manual (17 June 2002, Gene-It; submitted in request to

1.105). This is a new grounds of rejection.

The instant claims are drawn to a method for comparing a first sequence and a second

sequence by determining a plurality of alignments and associating error with the alignments and

comparing the errors to identify those with the smallest error and further computing percent

identity.

The LASSAP User Manual teaches a sequence comparison system and method using

various algorithms for sequence comparison, such as string matching (KERR), BLAST, HASH

and KHASH, to name a few (see Table 8, page 66). Depending upon the needed sequence

alignment comparison a number of various algorithms may be used to generate the alignment.

Sequences are compared, for example, at page 65 using basic elements such as an algorithm, a

scoring matrix, and a sequence database to store the results. A results database is generated in

which percentage of identity and percentage of similarity and alignment length are generated

using the various algorithms (page 93, 5.1). Percentage of positives according to a scoring

matrix are shown (page 97). Tables 16 elucidates the various properties of the algorithms, such

as showing mismatches (HASH and Kerr algorithms), scoring (NW), insertions and deletions

included (KERR-HASH). Pages 175-199 detail that various algorithm features, such as allowing

GAPS (page 199, the NW algorithm or page 190, the KHASH algorithm). The LASSAP

program is an all inclusive sequence alignment tool that includes all such limitations as instantly

claimed and therefore anticipates each of the said claims.

No claims are allowed.

Inquiries

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lori A. Clow, Ph.D., whose telephone number is (571) 272-0715. The examiner can normally be reached on Monday-Friday from 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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(866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

April 5, 2010
/Lori A. Clow, Ph.D./
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